

# Air Quality Reviews

Los Alamos National Laboratory

Laboratory Implementation Requirements LIR404-10-01.2

Issue Date: April 30, 1998 Revision Date: January 29, 2003

**Mandatory Document**

## 1.0 Introduction

**Lessons Learned** Note: [Click here](#) for Lessons Learned *that may apply* to the requirements contained in this LIR.

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### 1.1 Overview

Federal rules, New Mexico state laws, and Department of Energy orders require that the Laboratory mitigate the potential for adverse environmental impact. Hence, before work may be authorized, proposals for new or revised work activities must be assessed for potential environmental impacts and required controls must be implemented.

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### 1.2 In this Document

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## 2.0 Purpose

This Laboratory implementation requirements (LIR) document contains the requirements that must be implemented for the review of proposed activities and projects for air quality and environmental ALARA (as low as reasonably achievable) requirements. The requirements in this document support LPR 404-00-00.2, "Environmental Protection."

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## 3.0 Scope and Applicability

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The requirements of this document are applicable to all organizations conducting work at the Laboratory in which there is a potential for emissions that affect air quality or a radiation dose to the public.

Unless otherwise stated in the text, the contents of this document are effective upon the issue date.

## 4.0 Definitions

### 4.1

#### Acronyms

ACIS—automated chemical inventory system  
ALARA—as low as reasonably achievable  
CAS#—chemical abstract service number  
DOE—Department of Energy  
EPA—Environmental Protection Agency  
HAP—hazardous air pollutant  
ISM—integrated safety management  
LIR—Laboratory Implementation Requirement  
MAQ—Meteorology and Air Quality Group  
OIC—office in charge  
ODS—Ozone depleting substance  
RRES—Risk Reduction and Environmental Stewardship Division

### 4.2

#### Definitions

**air quality review**—The review of new activities and projects at the Laboratory for the purpose of identifying requirements for

- Radioactive air emissions
- Radiation stack monitoring
- Direct Penetrating Radiation
- Environmental surveillance and monitoring
- Non-radioactive air emissions
- Refrigerants
- Ozone depleting substances (ODSs are listed in 40 CFR 82 Subpart A Appendix A and Appendix B)
- Public health impacts (dose assessments/environmental ALARA)
- Emergency planning and community right-to-know reporting

**ALARA**— as low as reasonably achievable (ALARA) is an acronym used to describe an approach to radiation protection to control or manage exposures and releases of radioactive material to the environment as low as social, technical, economic, practical, and public policy considerations permit.

**Chemical:** Solid, semi-solid, liquid, or contained gases that cannot be considered finished items (e.g. fluorescent light tubes, lantern or smaller cell batteries, and metal

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stock for machining) that are either (1) regulated; (2) pose a potential health or physical hazard to workers or the public; or (3) have a significant cost associated with disposal of the chemical or the container once the chemical has been consumed. The following are some examples of items that are chemicals, but will not be subject to air quality review: water, sand, saline solutions, chemicals of biological origin (DNA, RNA, immunochemicals, antibodies, enzymes, peptides), and office supplies (whiteout, toner, marker board cleaner, ink, etc.). LIR402-510-01.0 "Chemical Management"

**permit**—A written permission from a regulatory agency (for example, the Environmental Protection Agency or the New Mexico Environment Department) required as authorization to operate, construct, or modify a source of air emissions and may take the form of a formal permit, a pre-construction application, etc.

**direct penetrating radiation**—Radiation capable of causing "deep dose," which is the dose in tissue at a depth of 1 cm.

**Guidance Note:** It consists of x-rays, gammas, and neutrons. Direct penetrating radiation is synonymous with "external penetrating radiation", also called "external radiation" in 10 CFR 835, or "penetrating radiation" in DOE Order 5400.5.

## 5.0 Implementation Requirements

### 5.1 Responsibilities

The responsibilities for implementing the air quality review requirements are as follows:

Who	Shall . . .
<b>Safety- and Environment-Responsible Line-Management Chain</b>	for proposed activities meeting the criteria in Section 5.2, ensure that RRES-MAQ has conducted an air quality requirements determination and, as deemed necessary from that determination, that required controls are implemented and permits in place.
<b>Risk Reduction and Environmental Stewardship Division Meteorology and Air Quality Group (RRES-MAQ)</b>	<ul style="list-style-type: none"><li>• Maintain expertise in the Laboratory for Clean Air Act compliance, EPCRA 313, and DOE environmental monitoring and dose assessment. This expertise includes a detailed knowledge of existing laws and regulations and how they apply to the Laboratory.</li><li>• assist safety- and environment-responsible line managers in identifying and addressing air quality issues.</li><li>• be the Laboratory's single point of contact for regulators on Clean Air Act issues, ambient air monitoring, and public dose assessment.</li></ul>

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## 5.2

### Air Quality Review

Before work is authorized, the following categories of activities must be screened against the criteria in the attached flow-charts to determine if a formal RRES-MAQ review is required for air quality and environmental ALARA requirements. Work may be authorized only if the screen determines that further review is not required or upon implementation of additional requirements identified by RRES-MAQ.

- installation or modification of boilers, generators, or any fuel burning equipment (Attachment 1);
- use of radionuclides or production of radiation (Attachment 2);
- maintenance (for example, filter changes), installation, or modification of radionuclide or beryllium building exhaust system components (Attachment 3);
- use of beryllium, for example, any beryllium machining (Attachment 4);
- removal or disposal of asbestos or asbestos containing material (contact RRES-MAQ for an air quality compliance determination);
- installation of a new storage tank or a change in the liquid stored in an existing storage tank (Attachment 5);
- halogenated solvent cleaning (Attachment 6);
- melting, cutting, grinding, or retooling of more than 100 pounds of lead annually (contact RRES MAQ for an air quality requirements determination);
- excavation or disturbance of soils or groundwater potentially contaminated with radionuclides or chemicals (Attachment 7);
- any demolition, decommissioning, or decontamination of a facility or structure (contact RRES-MAQ for an air quality requirements determination);
- open burning (contact RRES-MAQ for an air quality requirements determination);
- installing, replacing, retrofitting, maintaining, servicing, repairing, disposing of equipment/appliances containing refrigerants (ODS and non-ODS) (Attachment 8);
- use, other than refrigeration, of class I or class II ozone-depleting substances(Attachment 8); or
- installation or modification of particulate-generating operations such as asphalt production, rock crushing, carpenter shops, paint booths, etc. (contact RRES-MAQ for an air quality requirements determination).

**Special Note on Chemical Usage:** If an activity uses or creates/transforms chemicals, information on these chemicals must be maintained on the Laboratory-wide chemical

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inventory system (formerly known as ACIS) by Safety- and Environment-Responsible Line- Management Chain and by chemical owners (LIR402-510-01.0 "Chemical Management"). Accurate tracking of all chemicals used in activities (by UC or contractor employees) or processes on the Laboratory-wide chemical management system provides required information for reporting under the Clean Air Act, and the Emergency Planning and Community Right-to-Know Act (specifically, Subparts 311, 312, and 313 of the Superfund Amendments and Reauthorization Act).

## 6.0 Documentation

### Air Quality Review Records

RRES-MAQ shall maintain records of all new activities and projects that have been referred to RRES-MAQ for a regulatory applicability determination. All records, including any referenced documents, shall be maintained for a minimum of 5 years.

## 7.0 References

**7.1 Document Ownership** The OIC for this document is RRES-MAQ, the Meteorology and Air Quality Group (5-8855).

**7.2 Documents** LIR 300-00-01, "Safe Work Practices"  
LIR 230-03-01, "Facility Management Work Control"  
LPR 404-10-00, "Performance Requirements for Air Quality"

## 8.0 Attachments

Attachment 1: Boilers, Generators, and Other Combustion Equipment

Attachment 2: Radionuclides

Attachment 3: Exhaust System Components

Attachment 4: Beryllium

Attachment 5: Storage Tanks

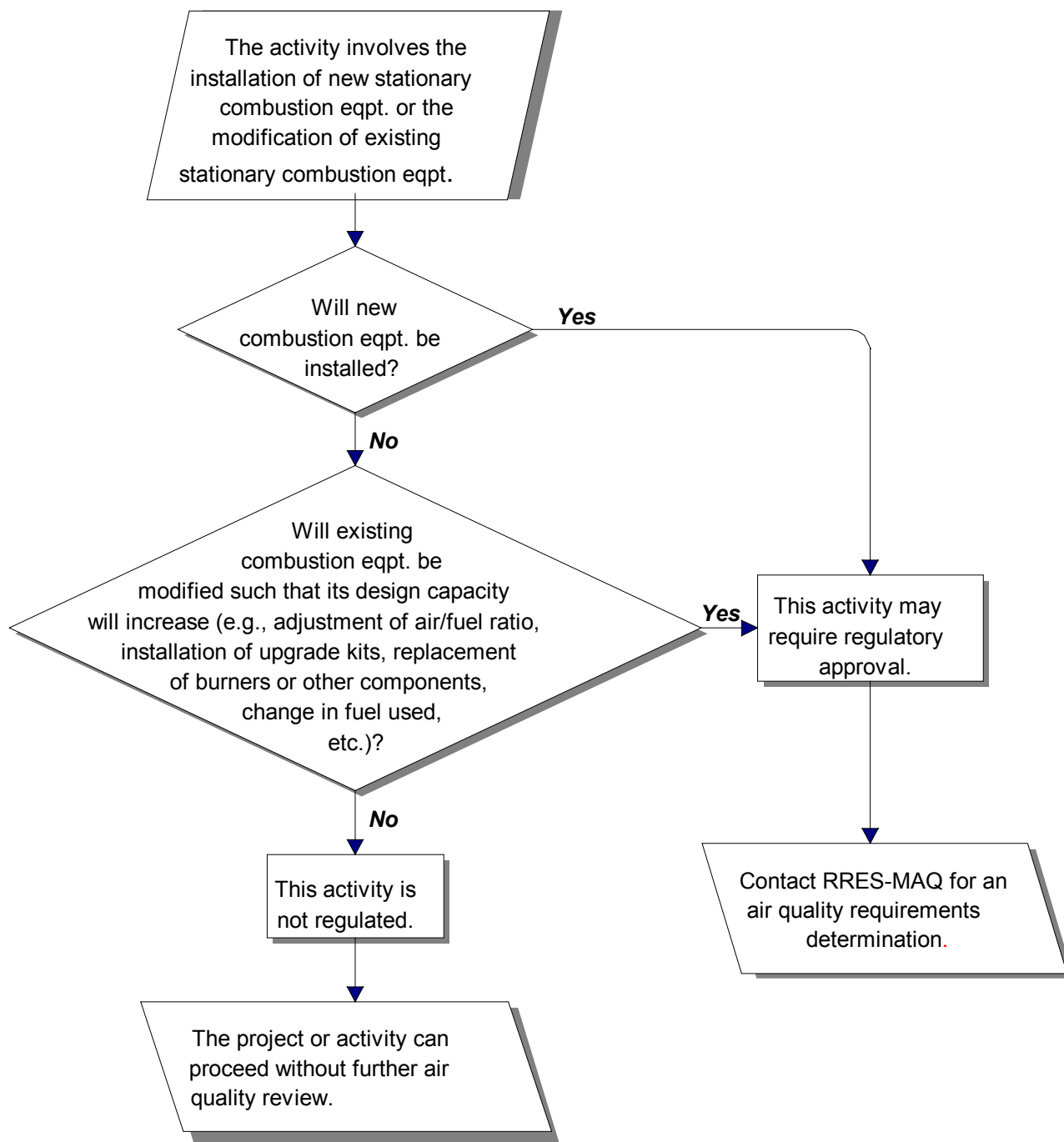
Attachment 6: Solvent Cleaning Operations

Attachment 7: Contaminated Soils or Groundwater

Attachment 8: Refrigerants and Ozone Depleting Substances

## Attachment 1

# Boilers, Generators, and Other Combustion Equipment



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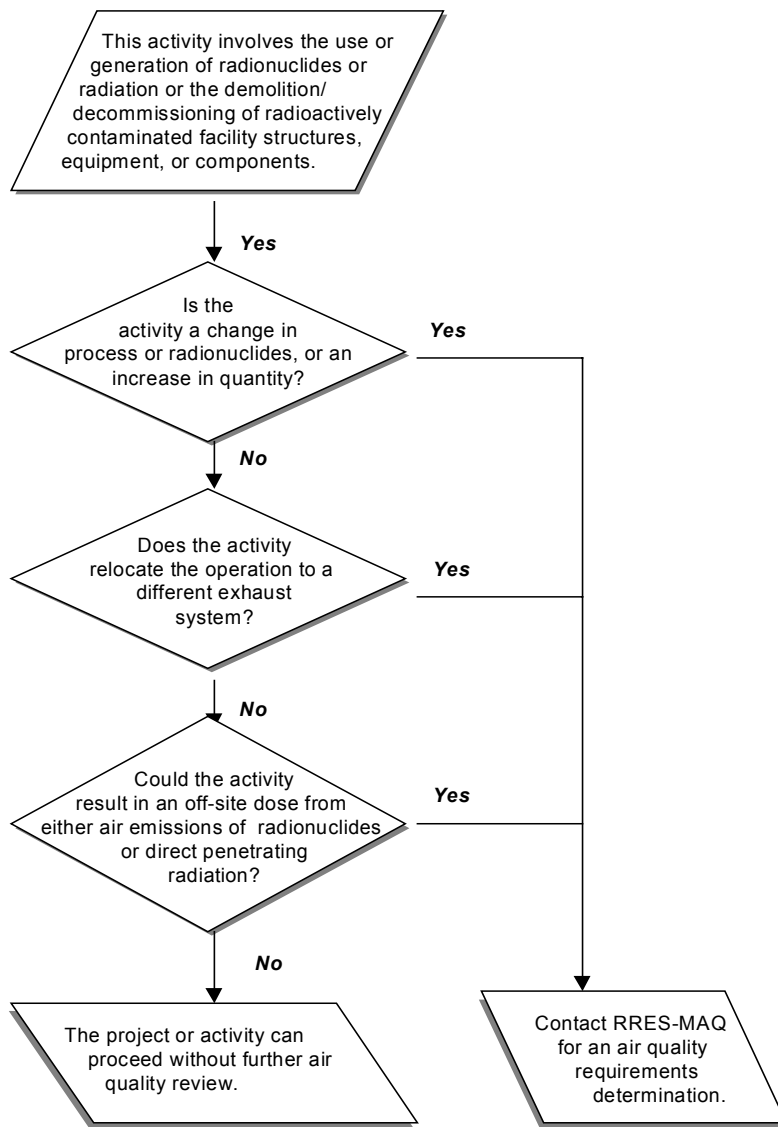
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## Attachment 2

### Radionuclides



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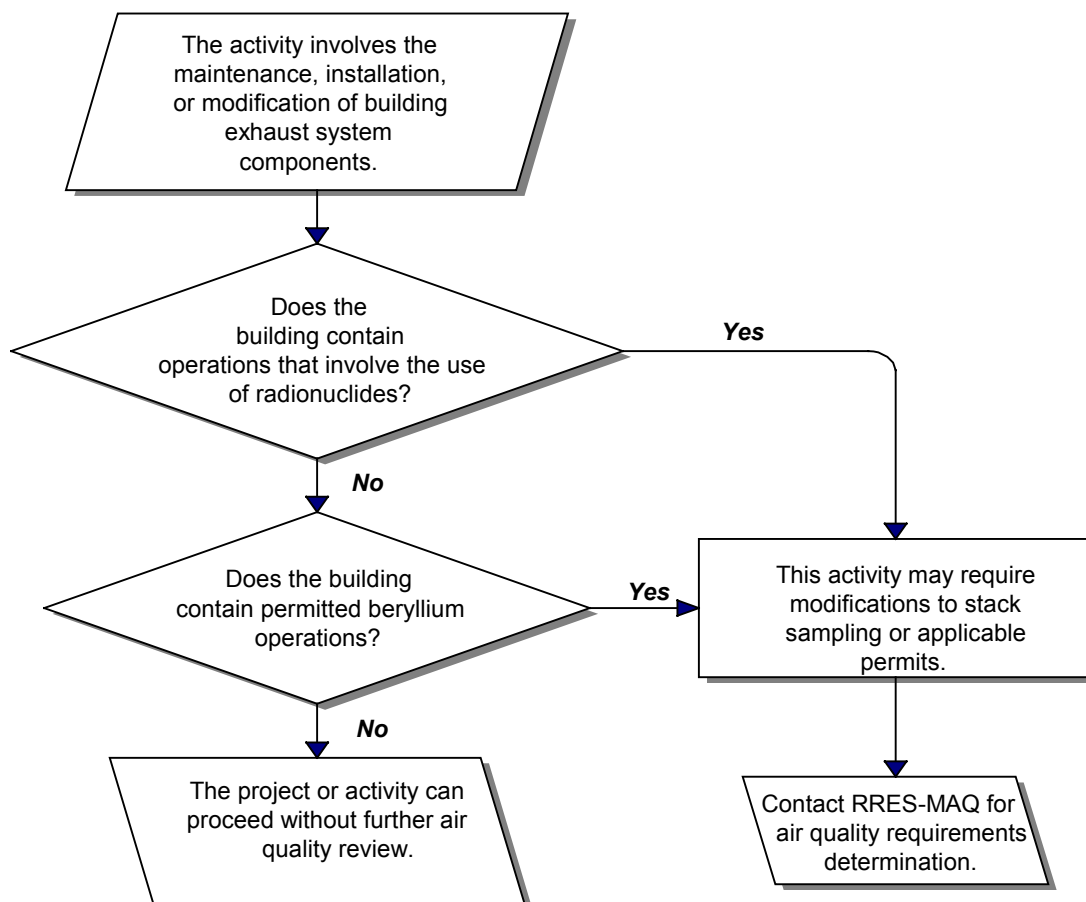
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## Attachment 3

### Exhaust System Components





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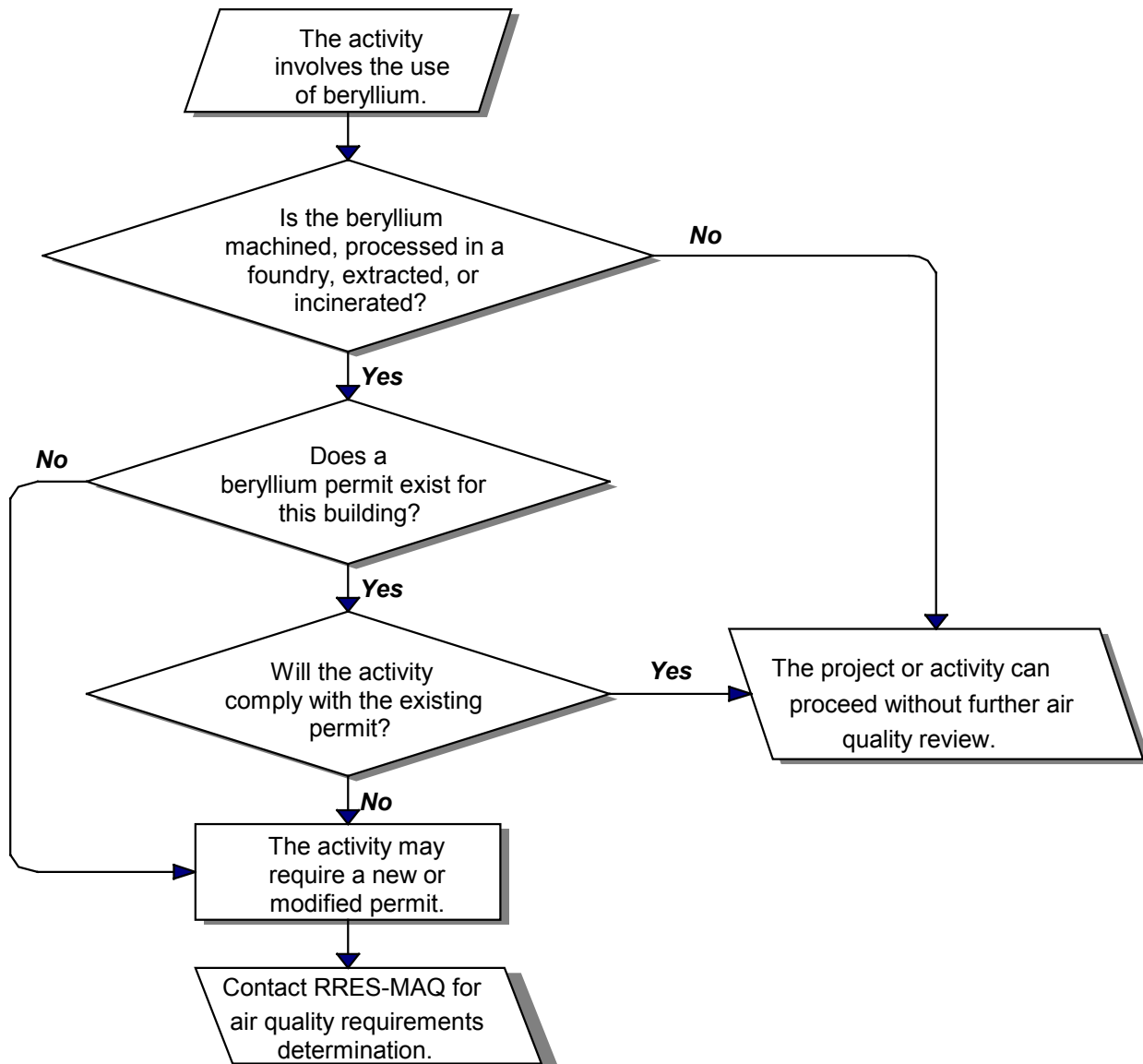
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## Attachment 4

### Beryllium



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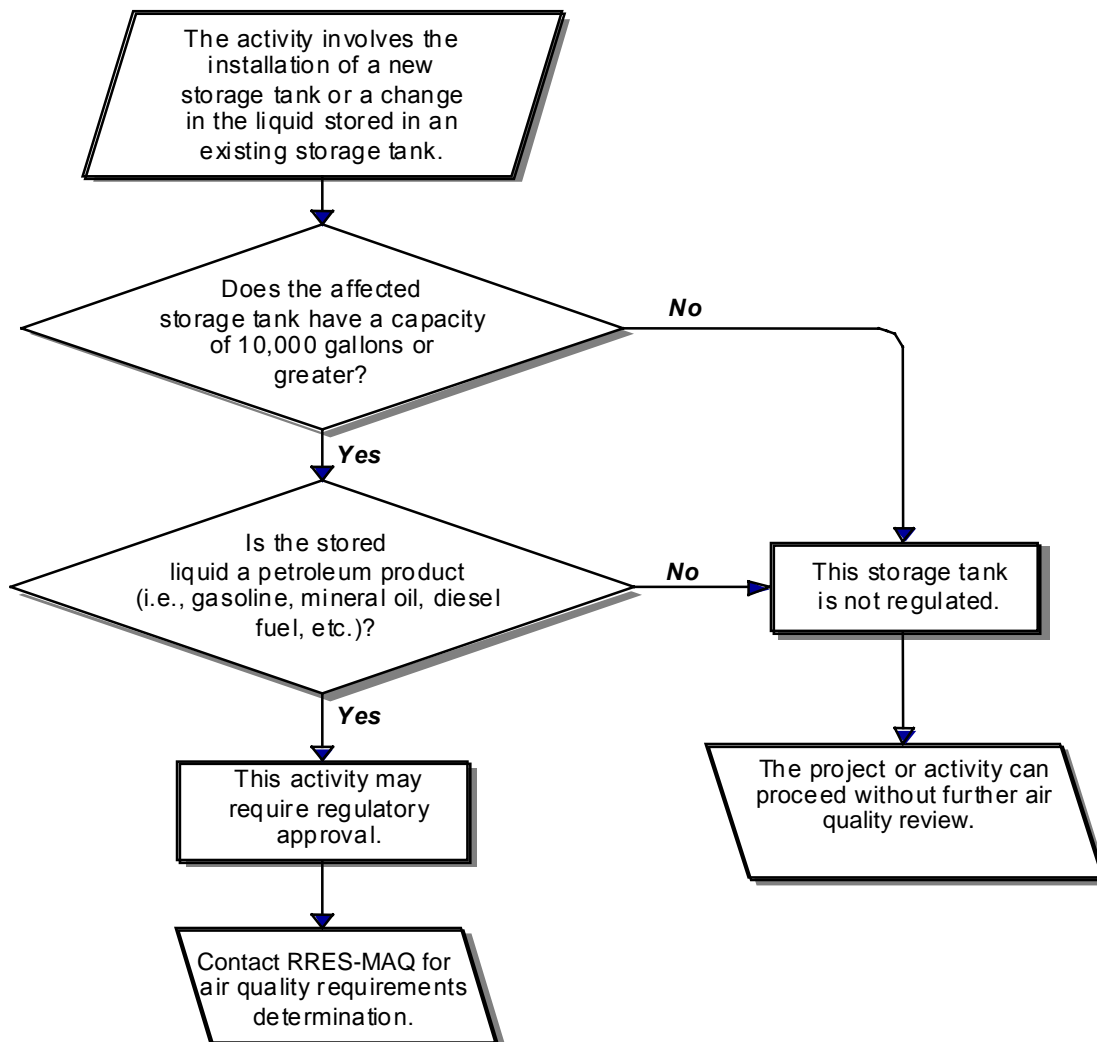
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## Attachment 5

### Storage Tanks



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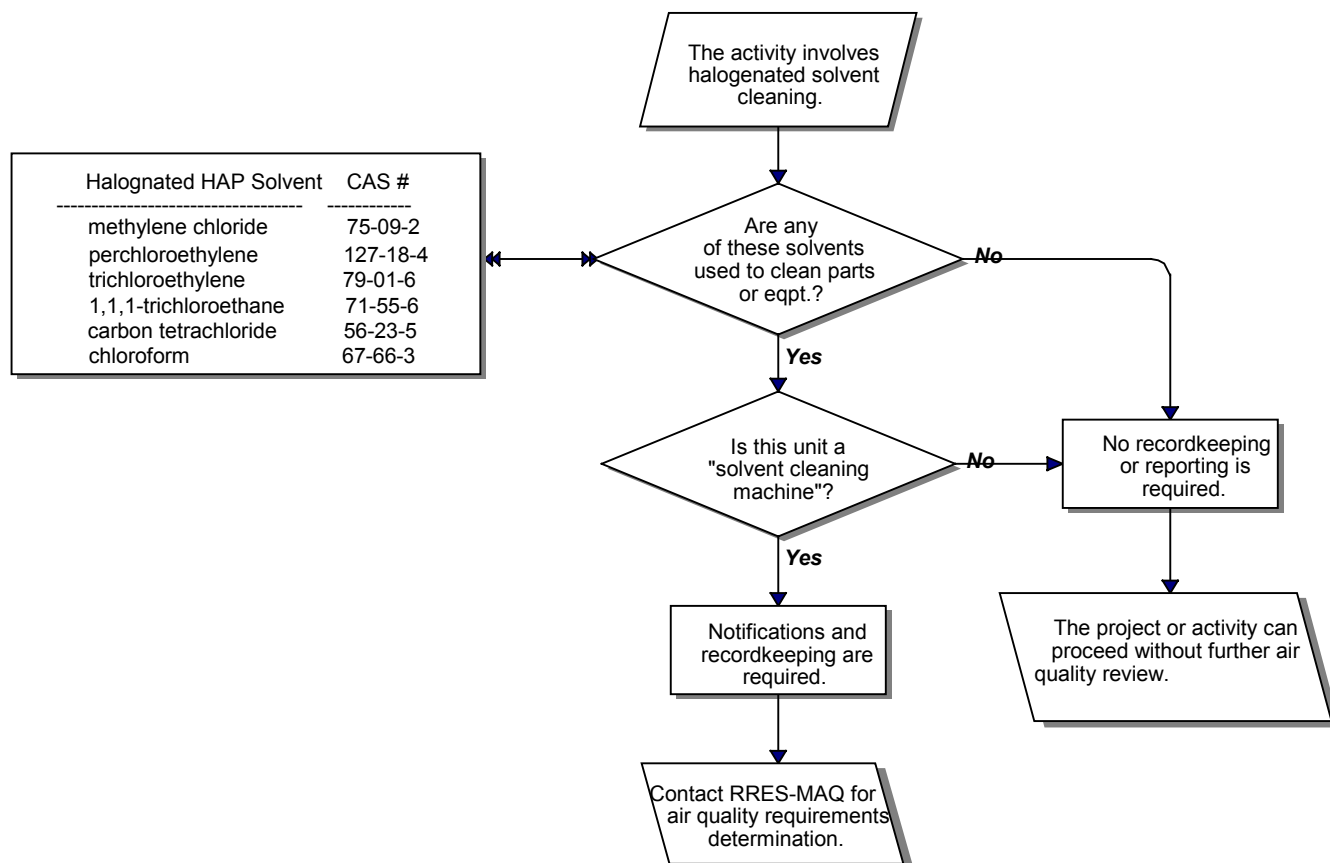
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### Solvent Cleaning Operations



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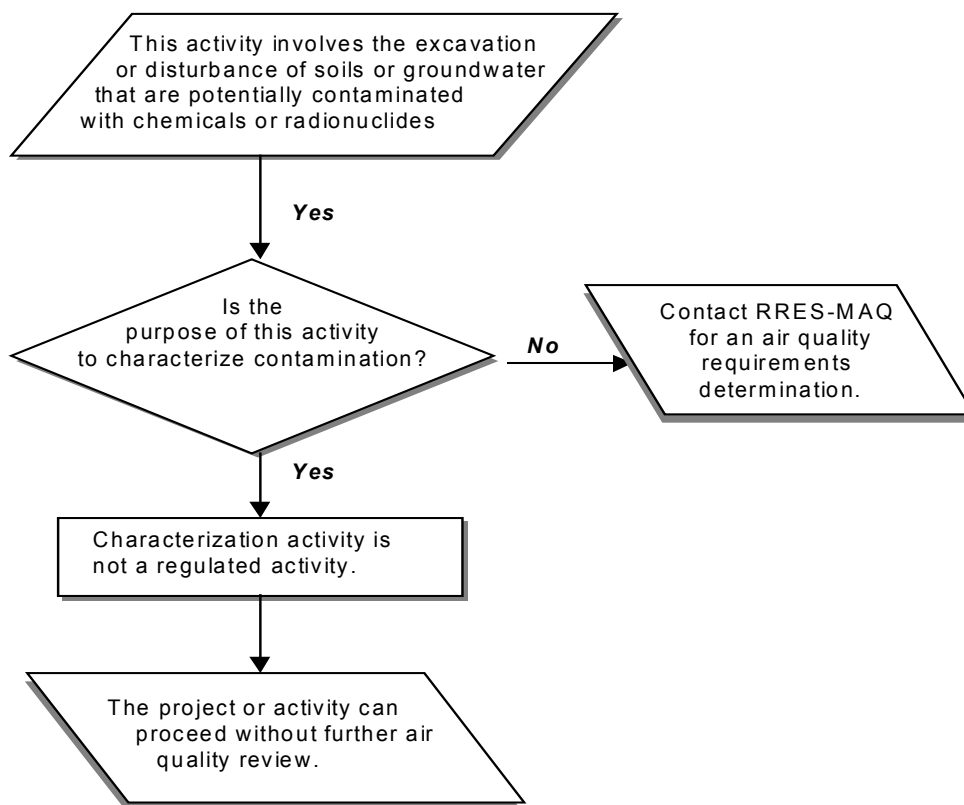
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## Attachment 7

### Excavation or Disturbance of Potentially Contaminated Soils or Groundwater



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### Refrigerants and/or Ozone Depleting Substances

